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10/671,638	09/29/2003	Jung-Tao Liu	29250-001073/US	1362

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EXAMINER

SINKANTARAKORN, PAWARIS

ART UNIT	PAPER NUMBER
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2416

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/671,638	Applicant(s) LIU, JUNG-TAO	
	Examiner Pao Sinkantarakorn	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,6-9,11,13-16 and 18-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-2,4,6-9,11,13-16, and 18-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 3/31/2009 have been fully considered but they are not persuasive. Applicant submits that the pending claims are in condition for allowance because the Applicant has amended independent claims 1, 8, 15, and 20 to include the allowable features of claims 5, 12, and 17. The Examiner respectfully disagrees. In the previous Office Action mailed on 12/9/2008 on page 8, the Examiner objected to claims 5, 12, and 17 as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim **and** any intervening claims. The base claims are claims 1, 8, 15, and 20. The intervening claims are 4, 5, 11, 12, 16, and 17. However, the Applicant fails to amend the base claims to include claims 4, 11, and 16 into the base claims. In doing so, the scope of the independent claims 1, 8, 15, and 20 have been altered. Thus, the Applicant's amendment necessitates the new ground(s) of rejection presented in this Office action.

Claim Rejections - 35 USC § 103

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

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consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 4, 6-7, 11, 15-16, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al. (US 7,120,132) in view of Malladi et al. (Newly Cited US 2003/0210668).

Regarding claims 1 and 15, Choi et al. disclose a method of aligning a plurality of physical channels, comprising:

aligning first and second uplink physical channels based on a timing offset (see FIG 3 and column 7 lines 13-25, aligning n th UE to the start of the timeslot and aligning $(n+1)$ th UE to the start of the timeslot); and

transmitting the first and second channels over an uplink at a time instant different than that of a third uplink physical channel (see FIG 3 reference numeral 307

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and 49-65, the uplink scrambling code is time-aligned to the 1st timeslot, which is different than that of the n th and $(n+1)$ th uplink channels).

Choi et al. fail to teach none of subframes of the first and second channels transmitted in the uplink overlap with uplink transmission of a subframe of the third channel, and the first and second channel including a control channel and a data channel, the timing offset preventing the control channel from being transmitted in the uplink at a same time as the third channel. However, Malladi et al., from the same or similar fields of endeavor, disclose none of subframes of the first and second channels transmitted in the uplink overlap with uplink transmission of a subframe of the third channel (See Figure 2D, Figure 3, relevant portions in the disclosure, the Uplink DPCCH does not overlap with the Uplink HS-DPCCH, where the subframe of the Uplink DPCCH starts at time T_1 and lasts for 1 slot and the subframe of the Uplink HS-DPCCH starts at time T_2 and lasts for 3 slots; the Examiner interprets the Uplink DPCCH as the first channel, the Uplink DPDCH as the second channel, and the Uplink HS-DPCCH as the third channel, where DPDCH and DPCCH can be transmitted in the same slot as shown in Figure 2D), and the first and second channel including a control channel and a data channel (See Figure 2D, Figure 3, relevant portions in the disclosure, the Examiner interprets the Uplink DPCCH as the first channel, the Uplink DPDCH as the second channel, and the Uplink HS-DPCCH as the third channel) the timing offset preventing the control channel from being transmitted in the uplink at a same time as the third channel (see paragraph 57, the feedback information is transmitted on the uplink HS-DPCCH starting at time T_2 , which is a particular amount of time from the end of the

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corresponding subframe 312, where the subframe 312 is transmitted some amount of time after time T1, thus, the offset time prevents the DPCCH and DPDCH from being transmitted at the same time as the HS-DPCCH).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the method, wherein none of subframes of the first and second channels transmitted in the uplink overlap with uplink transmission of a subframe of the third channel, and the first and second channel including a control channel and a data channel, the timing offset preventing the control channel from being transmitted in the uplink at a same time as the third channel as taught by Malladi et al. into the method of Choi et al. in order to mitigate the effects of link imbalance of the uplink channels (see abstract).

Regarding claims 4, 11, and 16, Choi et al. disclose all the subject matter of the claimed invention except except the method, wherein the first and second physical channels include a control channel configured to support enhanced uplink (EU) services and a data channel configured to support enhanced uplink (EU) services, and the third physical channel is a control channel configured to support high speed downlink packet access (HSPDA) services.

The invention of Malladi et al. from the same or similar fields of endeavor disclose a high speed data communications, wherein a first channel is a dedicated physical control channel (DPCCH), a second channel is a dedicated physical data channel (DPDCH) (see Figure 2D, Figure 3, and relevant portion in the disclosure, DPCCH and DPDCH), and a third channel is a high speed dedicated physical control

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channel on the uplink used to support the high speed downlink shared data channel (see Figure 2D, Figure 3, and relevant portion in the disclosure, High-Speed Dedicated Physical Control Channel).

Thus, it would have been obvious to the person of ordinary skill in the art to implement the high speed data communications of Malladi et al. into the method of Choi et al. in order to allow high speed packet transmission utilizing HS-DPCCH.

regarding claims 6 and 18, the timing offset is a timing offset to align a subframes of a shared control channel with a start of a plurality of subframes of a common control channel that is used as the time reference (see column 2 lines 56-67, the CPICH and the P-CCPCH undergo frame synchronization) for all physical channels received in the downlink or physical channels to be transmitted in the uplink (see column 2 lines 56-67, P-CCPCH is used as reference channels for both uplink and downlink DPCHs);

regarding claims 7 and 19, the SCCH is configured to provide control signaling in the downlink to support enhanced uplink (EU) services (see column 2 lines 56-67).

6. Claims 2, 8-9, 13-14, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Choi et al. in view of Malladi et al. as applied to claims 1 and 8 above, and further in view of Chulajata et al. (Newly Cited US 6,434,375).

Regarding claims 2 and 9, Choi et al. in view of Malladi et al. disclose all the subject matter of the claimed invention except the aligning step further includes synchronizing subframe boundaries of the subframes of the first and second uplink

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physical channels so that the subframes are transmitted in the uplink at a same time instant.

Chulajata et al., from the same or similar fields of endeavor, disclose synchronizing subframe boundaries of the subframes of the first and second uplink physical channels so that the subframes are transmitted in the uplink at a same time instant (see column 4 lines 30-33, a DPCCH and upto six DPDCHs can be transmitted simultaneously).

Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to implement the step of synchronizing subframe boundaries of the subframes of the first and second uplink physical channels so that the subframes are transmitted in the uplink at a same time instant as taught by Chulajata et al. into the method of Choi et al. in view of Malladi et al. in order to increase the efficiency of the method by allowing simultaneous transmissions.

Regarding claims 8 and 20, Choi et al. in view of Malladi et al. disclose all the subject matter of the claimed invention (see paragraph 5 of the Office Action) except the method for code multiplexing the first and second physical channels with additional physical channels other than the third physical channel at the different time instant to generate a code-multiplexed signal to be used for uplink transmission.

However, the invention of Chulajata et al. from the same or similar fields of endeavor disclose a method for code multiplexing control channels between an I channel and a Q channel (see column 4 lines 13-49, code-multiplexing DPCCH and 6 DPDCHs).

Thus, it would have been obvious to the person of ordinary skill in the art to implement a code-multiplexing method as taught by Chulajata et al. into the method for synchronizing uplink channels of Choi et al. in view of Malladi et al. in order to improve the peak-to-average power ratio.

Regarding claim 13, Choi et al. disclose the timing offset is a timing offset to align a subframes of a shared control channel with a start of a plurality of subframes of a common control channel that is used as the time reference (see column 2 lines 56-67, the CPICH and the P-CCPCH undergo frame synchronization) for all physical channels received in the downlink or physical channels to be transmitted in the uplink (see column 2 lines 56-67, P-CCPCH is used as reference channels for both uplink and downlink DPCHs);

regarding claim 14, the SCCH is configured to provide control signaling in the downlink to support enhanced uplink (EU) services (see column 2 lines 56-67).

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not

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mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. **Examiner's Note:** Examiner has cited particular columns and line numbers in the references applied to the claims above for the convenience of the applicant. Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pao Sinkantarakorn whose telephone number is

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(571)270-1424. The examiner can normally be reached on Monday-Thursday 9:00am-3:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on 571-272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. S./
Examiner, Art Unit 2416

/Ricky Ngo/
Supervisory Patent Examiner, Art
Unit 2416